Canadian Centre for Occupational Health and Safety

Centre canadien d'hygiène et de sécurité au travail

Canadian Occupational Health Standards:

A Discussion Paper

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Canadian Centre
for Occupational Health
and Safety

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1. Standard setting in Canada: a historial overview

Until the mid-1970s, a US organization, the American Conference of Governmental Industrial Hygienists (ACGIH), produced virtually all of Canada's guidelines and standards for hazardous substances. The ACGIH had achieved its prominent position by virtue of several different but inter-related factors.

For example, prior to WW II, Canada's technological, economic, and professional growth generally lagged behind that of its neighbour. This meant that fields such as industrial hygiene and occupational medicine remained relatively underdeveloped. None of the federal or provincial jurisdictions, except for Ontario, established industrial hygiene divisions until the late 1930s. Quebec's division was set up in 1936, but right up to the 1970s never consisted of more than ten professionals.[1] The Federal government's division was organized in 1937. However, it too remained small for decades.

Industrial hygiene, as a discipline, was greatly influenced by the medical professionals at McGill University and the University of Toronto. Drs Pedley and Cunningham, from McGill and Toronto respectively, offered short courses in industrial hygiene to members of the medical profession during WW II. When Canada's first post-graduate diploma in industrial hygiene was created in 1944, it was restricted to graduates of medical schools.[2] It wasn't until 1949 that Canadian occupational health professionals issued their own 'indigenous' manual for industrial hygiene. The manual was based upon US sources and included ACGIH's recommended exposure limits.[3] Those limits had been derived almost exclusively from conditions and experiences in US companies.[4]

It was not surprising that when the same companies expanded operations to Canada they usually brought their own managerial approaches along with them.[5] [6] The foreign firms found the exposure standards acceptable since they had helped to develop them. Canadian firms and governments also found them convenient because they were spared the complications and expense of developing standards independently. (Labour organizations were still, for the most part, struggling for basic bargaining rights at that time.)

In some cases, the transfer of ACGIH exposure limits was facilitated by close relationships between US health professionals and their Canadian counterparts. Throughout the 1930s, for example, Dr J G Cunningham and his co-workers in the Ontario Division of Industrial Hygiene, Drs G B Brink and A R Riddell, were members of the "Konocid" Club. The Club headed by Dr. Drinker of Harvard University was concerned with the "whole question of relations between dusty exposure levels and dust disease."[7] It never numbered over 38 members. Many of the Konocid members, including Dr. Cunningham, went on to occupy key positions in the ACGIH after its official formation in 1938.[8]

Standard setting in Canada: a historial overview *continued*

Dr Cunningham, in turn, was very influential in the shaping of industrial hygiene policies within Canada's small professional community. He headed Ontario's division for over 30 years; was Canada's representative to the ILO's Committee on Industrial Health, chairman of the federal government's Advisory Committee on Industrial Hygiene, and initiator and chairman of the Canadian Medical Association's section on Industrial Hygiene. Dr Cunningham, along with Dr F S Parney of Ottawa and Dr F J Tourangeau of Québec, occupied the top industrial hygiene positions in Canada for several decades. Drs Cunningham and Parney collaborated on the Industrial Hygiene Manual referred to previously, while Dr Tourangeau translated it into French. When Dr Cunningham retired, Dr Ernest Mastromatteo headed Ontario's Health Protection Branch from 1951 to 1974. Dr Mastromatteo has been chairman of the ACGIH, as well as serving on various committees including the Threshold Limit Value Airborne Contaminant's Committee.[9] By the early 1970s, however, events in both countries led to changes in the once predominant position of the ACGIH.

In the US, a new Occupational Safety and Health Act, passed in 1970, created the National Institute for Occupational Safety and Health (NIOSH). NIOSH's duties included recommending permissable occupational exposure limits. Its presence as an alternate standard generating institution was somewhat unsettling to the ACGIH, whose spokesman, Dr Stokinger, declared that the ACGIH: "is going to be an opposing voice for what NIOSH has put out."[10]

Around the same time in Canada, widespread public concern about occupational health issues culminated in several government sponsored commissions and studies. Saskatchewan's re-examination of the matter led to its 1972 Occupational Health and Safety Act. The Act was based upon the principle that workers and their organizations had a fundamental right to participate in developing, implementing and enforcing policies relating to workplace health and safety.[11] Moreover, it was concluded that the best way of ensuring adherence to this principle was by establishing a tripartite legislative framework. Other commissions and inquiries during this period came to similar conclusions.

In Alberta, the Gale Commission recommended a tripartite framework, noting that, "we see the unions along with management applying their knowledge during the preparation of new regulations and in developing consensus for new health standards."[12] Ontario's Ham Commission too supported the tripartite approach.[13] Quebec's 1978 white paper also stressed the need for a tripartite approach emphasizing that "workers must also be granted the right to play an active part, both individually and collectively, in instituting and enforcing the preventive measures required at work. In addition, they should be allowed to help

Standard setting in Canada: a historial overview *continued*

draw up standards and regulations and set up research projects on health and safety at work."[14]

The commissions and inquiries were followed by various legislative changes reflecting Saskatchewan's approach.[15] Governments also provided significant increases in funding for occupational health problems and as expenditures grew, so did awareness, expertise and confidence. Canadians slowly began to set their own health hazard priorities, expand their research initiatives, and work out their own plans for dealing with occupational health. Within this process, the pre-eminent position of the ACGIH was gradually eroded.

Today, about 2.2 million out of 12.6 million workers in Canada are under jurisdictions where ACGIH exposure limits are incorporated through statutory provisions.[16] The remaining 10.4 million are in jurisdictions which either adopted ACGIH exposure limits initially and then began modifying them (e.g. Saskatchewan, Manitoba, Alberta), or never legally adopted the numbers (e.g. Ontario, Québec) and are currently attempting to find suitable standard setting procedures. In either case, there is an ongoing critical evaluation of standard setting processes across Canada. A single external mechanism, the ACGIH, has been replaced by several, as yet, uncoordinated ones, with varying degrees of public participation. A 'Canadianization' process is underway. To what extent can the Centre facilitate this ongoing process, while simultaneously helping to ensure that all Canadians enjoy a healthy and safe working environment?

2. Centre's mandate for standard setting

The Centre's authority is derived from the Canadian Centre for Occupational Health and Safety Act, 1978. The purpose, objects, activities and powers of the Centre clearly envision a broadly defined role for it in the area of occupational health and safety. The Statute is clearly permissive, in that it allows the Centre's Governors to determine, to a considerable degree, their own mandate. The recommendation of exposure standards comfortably falls within the parameters of Section 5(1), for instance. The legislative history of the Act also lends itself to that view. Labour Minister, John Munro, as he then was, stated that the Centre: "would encourage federal, provincial and territorial jurisdictions to use appropriate suasions and sanctions for the establishment of high standards of occupational safety and hygiene appropriate to the Canadian situation and compatible with recognized international standards."[17]

At the same time, it was stated that the Centre would have: "no authorization to promulgate or enforce mandatory standards."[18] Thus, standards would remain as recommendations unless the

Centre's mandate for standard setting
continued

various jurisdictions chose otherwise. Nothing, however, prevented the Centre from developing standards. In fact, there has been, for some time, a certain degree of support for the proposal that a national body become directly involved in standard setting. This support has been expressed in numerous ways.

In 1976, a Health and Welfare Canada report observed: "Canadian corporations with operations in more than one province, and/or the USA or other countries, must endeavour to abide by the variety of regulations and standards in use. In turn, foreign-based corporations face a similar problem when establishing Canadian operations."[19] Shortly thereafter, the Science Council of Canada concluded that a national body be established which would: "be responsible for publishing recommended standards of maximum permissible exposure levels for Canada."[20]

Again, in 1981, the Economic Council of Canada recommended: "that the federal and provincial governments consider developing national health and safety standards, with the assistance of the Canadian Centre for Occupational Health and Safety."[21]

In 1985, the Royal Commission on Canada's Economic Union and Development Prospects stated: "the most important contribution the government can make to occupational health and safety is to ensure continual revision of legislation and standards as new evidence comes to light. This involvement is critical in the area of industrial disease ... the Canadian Centre for Occupational Health and Safety might be the agency to develop these health standards most practically supported by direct input from provincial agencies."[22]

The ILO, of which Canada is a member, has adopted a Convention stating: "each member shall, in the light of national conditions and practice, and in consultation with the most representative organizations of employers and workers, formulate, implement and periodically review a coherent national policy on occupational safety, occupational health and the working environment."[23]

More recently, the federally-appointed Task Force on Program Review addressed the question of national standards. In one of its reports the following observation was made: "in terms of overall public administration costs, having 11 separate pieces of legislation on OSH hardly seems justified. The Economic Council has already recommended the development of national OSH standards."[24] It was further suggested that the government consider developing "national OSH standards and a single legislative framework."[25]

In a second report, the Centre's function as a potential standard formulating agency is addressed directly. "The Canadian Centre has done a fine but expensive job of providing information. It has

Centre's mandate for standard setting
continued

not fulfilled the rest of its mandate to coordinate research, *to develop standards* and to play a broad educational role."[26] (emphasis added)

3. Definitions of standards

While each of the above expressed a desirability for the Centre to concern itself with setting national standards, none explicitly suggested exactly what type of standard they had in mind. Should the standards be time-weighted average-threshold limits values (TWA-TLV), or the somewhat more simplified maximum allowable concentrations (MAC), or some combination of both approaches?

There has been considerable discussion regarding the scientific, economic and political origins of such concepts as outlined in the works of Smith Jr.,[27,28] Magnuson,[29] Stokinger,[30,31] Fairchild,[33] and Atherley,[34,35] to mention a few. While the content of those reports will not be dealt with here, suffice it to say that the choice of a particular type of standard may determine not only what kind of participatory framework is established for standard setting, but also what monitoring and compliance procedures are required.

Consideration must be given, not only to the type of standard selected, but also to its *nature*. That is, will the numerical values ultimately recommended be health-based biological limits reflecting a no-adverse-effect level as defined by the World Health Organization?[36] Or, will the standard be an administrative one, incorporating economic and technical feasibility factors, in the manner suggested by the Royal Commission?[37]

In the first case, many in the occupational health field contend that purely health-based standards are virtually impossible to devise. As a Law Reform Commission noted: "far from being a neutral 'objective' undertaking, this process involves a number of significant value and political judgements which are seldom examined."[38]

In the second case, it is often found that economic factors enter into the complex web of regulatory activities under the guise of health factors.[39] This had led to statements such as one by US scientist Dr Peter Infante, to advise regulators: "If you don't want to regulate because of cost, say so. Don't prostitute the science."[40]

Leaving aside ethical and theoretical questions implicit in such decisions, it is clear that the nature of the standard selected will also have definite organizational and policy implications. A purely 'health-based' standard, if it were possible to devise one, would entail a less complex, and perhaps less contentious, structure than

Definitions of standards
continued

one based on health, technology and economics. Regardless of the type and nature of standards recommended, the simple act of 'recommending' will undoubtedly have important implications for both the Centre and its clients.

4. Potential implications of standard setting for Centre and its constituents

As far as the Centre is concerned, by developing national standards it would be acting within its statutory mandate to promote the fundamental right of all Canadians to a healthy and safe working environment. In doing so its legitimacy and credibility across Canada, as well as internationally, would be affected.

Greater emphasis on standards development could require changes in the Centre's administration and finances, including the possible need for additional funding. The budgetary impact of such a move is difficult to assess at present, since it would be determined, mainly, by the type and nature of the standard chosen. In assessing the financial impact of this venture, due regard should nevertheless be given to the fact that the Centre already has a capacity for international scientific data collection and evaluation. It is not easy to predict whether this reputation would be jeopardized in any way as a consequence of the Centre's participation in standards formulation. The tripartite nature of the Centre does ensure, however, that any standards recommended would be voluntary and consensual.

On another level, the task of developing and/or revising standards may not be quite as onerous as is often thought. ACGIH's annual budget for all activities is about $1 million, but the TLV committee itself is financed solely through sales of its TLV booklet and other publications.[41] The current ACGIH Airborne Contaminants Committee consists of 27 part-time unpaid members.

Despite this modest structure and financing, ACGIH officials themselves feel that there have been few serious internal obstacles preventing them from issuing suitable and timely exposure limits for hundreds of substances and processes.[42] One reason given by past chairman, H E Stokinger, is that contrary to popular views, there really are not "100's of new chemicals reaching the market annually", but rather "less than a few dozen reach marketability annually."[43]

Another reason offered by Stokinger is that many individuals from within the community willingly, and without remuneration, offered their services as consultants on particular issues.[44] This practice continues today, as ACGIH operational guidelines state: "as with all ACGIH committee activities the employer of the committee member or consultant is encouraged to cover travel and per diem costs for meeting attendance and reasonable administrative and/or clerical costs."[45]

Potential implications of standard setting for Centre and its constituents
continued

There is little reason to believe that the same co-operative spirit would not be found among the Centre's clients. Although the Centre, as an institution, would be most directly affected by engaging in standards development, there are also implications for each of its constituents.

The federal and provincial governments would have to reassess their policies and programs in at least two major areas: research and regulation. Regarding research, far greater co-ordination of projects and personnel would be required. The urge to 're-invent the wheel', one jurisdiction at a time, would have to be resisted.

It seems that over the past few years, a pattern has emerged whereby governments, one after another, 'discover' a problem, then individually set their scientists to work. The latter then each produce reports with strikingly similar conclusions. This is hardly surprising, given that they are generally reviewing the same scientific literature. Asbestos illustrates this pattern quite well.

In 1975, a federal-provincial task force examined asbestos hazards, as did the province of Québec.[46] [47] Shortly after, asbestos was reviewed by the Science Council of Canada.[48] This was followed by an Alberta government report and a National Research Council Report.[49] [50] Ontario set up a Royal Commission on asbestos issuing its report in 1984.[51] Immediately following Ontario's report, the federal government contracted six scientists to advise it, yet again, on the scientific basis for occupational standards for asbestos. Five of the six scientists had been involved with Ontario's Royal Commission.[52]

If there is to be a national, and more rational standard developing process, each jurisdiction will, at a minimum, have to establish its own priority review list of substances for consideration by the Centre. In doing so, they will be controlling their own research and regulatory agendas. The importance of a country controlling its own occupational health agenda cannot be over-emphasized. Canada has its own unique industrial structure. Its distribution of hazardous substances and the importance given to them at any given moment may or may not parallel that of other countries.

For example, decades passed before the ACGIH decided to set a grain dust exposure limit, yet the grain industry is extremely important to Canada's economy. There is no ACGIH standard for potash dust but potash is a valuable commodity in at least three provinces. In other cases, it appears that substances leap to the top of the standard setting processes only because some external forces have given them a high public profile. Ethylene oxide, benzene and formaldehyde provide such examples.

Potential implications of standard setting for Centre and its constituents
continued

This phenomenon and its dangers were recognized by the Federal Task Force in its review of consumer product risks. "The Program itself remains reactive and its activities are often driven by 'media issues'..."[53] The same description could be applied to occupational health risks.

Governmental regulatory processes would also have to be reexamined. In most jurisdictions, professionals employed by one government department or agency are called upon to perform risk assessments for employees in other departments as well as those in the private sector. When outside consultants are utilized there may be little consultation with other parties as to who is chosen to carry out the work. This may leave the perception, especially among government employees, that factors other than health are involved in government-generated hazard evaluations.

Whether or not such a view is warranted is beside the point. By having even part of the standard setting process performed by an institution such as the Centre, which does not have a direct material interest in the outcome per se, and is moreover, a tripartite body, some of the traditional suspicions held by Labour may be alleviated. Labour representatives will have participated in the process. To the extent that the Centre carries out this function, governments may be able to simplify their own regulatory processes.

Still, there could very well be other objections to the Centre expanding its activities in this area. Consider the following:

> "Provincial positions might be undermined if interest groups unsatisfied with provincial policy obtain a more favourable opinion from the Centre."
>
> "The Centre will give the provinces only a minority voice in a field that they've been long accustomed to running on their own."
>
> "The Centre is an unnecessary duplication of long-established provincial programs which will lure away scarce expert staff from the provincial level where they are most needed."
>
> "In the Centre you have a organization in which the provinces—which have the jurisdictions—have less than one third their say."[54]

Each of the above fears were raised during the first days of the Centre's existence in 1978, and one suspects they might be repeated today with regard to national standards development. They would be equally baseless.

Potential implications of standard setting for Centre and its constituents
continued

In addition, changes in the country's economic climate, along with repatriation of an amended Constitution, may make intergovernmental cooperation more attractive than before. Projects such as the national Notification and Surveillance of Occupational Diseases and WHMIS, as well as the September 1984 meeting of occupational health and safety ministers indicate that a national coordination of efforts is becoming possible.

Labour organizations have supported the concept of national standards for some time. In 1976, the Canadian Labour Congress policy statement on occupational health and safety stated that it would: "work toward developing uniform safety and health legislation on the provincial and federal level."[55] In 1977, the Quebec Federation of Labour pledged itself to find ways to "get the working people of Canada united on common legislative goals on the subject of health and safety in the workplace.[56] The CLC's national Conference on Workplace Health and Safety held in 1979 recommended "development of a national law for the control of industrial poisons and toxic substances.[57] In 1980, the Congress adopted a policy stating: "there remains a pressing need to standardize the legal provisions in place in each province so that workers across Canada will enjoy essentially the same rights and protection no matter where they live and work.[58]

One of the strongest statements in support of the policy came from the then CLC president, Dennis McDermott, who said: "there is a need for urgent federal initiatives to identify and control dangerous chemical substances on a national basis. We are the only industrial country which does not have national health protection standards for workplaces. This is ridiculous. Other countries laugh at us when our programs are described."[59] Recently, CLC Executive Vice-President Richard Mercier told a House of Commons Legislative Committee "through various bodies, we have recommended national standards in terms of occupational health and safety matters and limits in terms of exposures to chemicals"[60]

The basis for Labour's position on this subject becomes clearer when the distribution of its membership is examined. Excluding the Federation des Affaires Sociales and the Centrale de l'enseignement du Quebec, (both confined to the province of Quebec), and the federal PSAC, there are 12 unions with over 50,000 members in Canada. Seven of these have members in ten jurisdictions; one has members in nine; one has members in eight; another has members in seven; and two have members in six jurisdictions.[61] Labour's current educational and training programs on toxic substances, as well as its regulatory efforts, must take this into account, and costs increase accordingly.

Management, at least those with employees in more than one jurisdiction, face a similar situation. For instance, Peter Budzik,

Potential implications of standard setting for Centre and its constituents *continued*

of the Canadian Chemical Producers Association, referred to the potential difficulties of meeting ten different exposure levels and participating in ten different standard setting exercises. He noted that the CCPA has also called for uniform legislation across Canada, but noted that the Association has always preferred the ACGIH because of its expertise.

Should the Centre decide to move in this direction, however, the CCPA pointed out that it would want to see a structure which would ensure widespread representation from industry, government, and external organizations.[62] Also, steps would have to be taken so that the needs of those companies handling substances not included in a national priority list are still met.

Linda Roulet, of the Canadian Manufacturer's Association, offered a personal view that, in principle, it would be a good idea for the Centre to become involved so that duplicative measures could be reduced.[63] An informal survey published in Health and Safety Forum found that 90 of 130 respondents, most of whom were from management, favoured making the Centre a focal point for intergovernmental standard setting.[64] A brief outline of several existing standard setting bodies may be helpful at this point.

5. Review of international standard setting processes

In the United States two bodies have been responsible for the vast majority of recommended exposure limits. They are the National Institute for Occupational Safety and Health (NIOSH) and the American Conference of Governmental Industrial Hygienists (ACGIH). NIOSH is a federally-funded agency within the Department of Health, Education and Welfare. One of its duties is to: "develop criteria dealing with toxic materials and harmful physical agents and substances which will describe exposure levels that are safe for various periods of employment, including, but not limited to, the exposure levels at which no employee will suffer impaired health or functional capacities or diminished life expectancy as the result of his work experience."[65]

According to NIOSH officials, their recommendations are: "based on criteria that consider health and safety first, and then, the feasibility of control within existing technology ... The evaluation of the economic impact of standards, considered previously by consensus and professional standard setting groups in their deliberations, is not part of the responsibility of NIOSH."[66] NIOSH's recommendations are forwarded to the federal agency responsible for regulation, the Occupational Safety and Health Administration (OSHA). Of the approximately 100 standards submitted to OSHA by 1980, less than 50 per cent were incorporated into federal laws.[67] An excellent analysis of the reasons why this interagency arrangement has been less successful than intended can be found in a paper by Mark Rothstein.[68]

Review of international standard settting processes
continued

NIOSH, although not specifically required to do so by law, has generally had its proposed standards reviewed by industry consultants and professional societies prior to forwarding them to OSHA. Labour organizations have had no real opportunity to contribute in NIOSH's deliberations.

The ACGIH, despite its title, is not a government agency. It is a private sector organization of professionals, such as doctors, engineers, chemists, and industrial hygienists. Its members are drawn from industry, government and universities. Within ACGIH, the Airborne Contaminants Committee is responsible for developing exposure limits. The committee came into official existence in 1941, although its founding members had worked together in various ways for at least a decade previously.[69]

The present 27-person committee is divided into three sub-committees dealing broadly with halogenated hydrocarbons, inorganics and dusts, and oxygen, hydrogen, and carbon groupings. Each sub-committee decides which substances it will review, and whether a TLV ought to be established. Following an unspecified review period, and if agreement is reached within the sub-committee, a recommended exposure limit is sent to the full committee for approval, amendment or rejection. If the full committee approves a TLV it is sent to the ACGIH Board of Directors who, in turn, present the recommended limit to the ACGIH annual membership meeting where it is voted upon. The proposed limit is then published in the notice of intended changes where it remains for at least two years while comments are awaited. After an unspecified interval, the limit may be officially "adopted."

While the ACGIH publishes a list of adopted TLVs each year, it has not and does not subject all substances on the list to annual scrutiny. The number of substances reviewed each year varies greatly. In 1987, for example, two of the three sub-committees will produce very little because their chairmen have experienced serious personal health problems.[70]

ACGIH standards are, according to its technical director, Kim Stewart, health-based, biological standards. They are not subject to technical or economic considerations.[71] The ACGIH preface states that it is designed to protect "nearly ail workers", but recognizes a "smaller percentage" may develop occupational illness.[72]

Notwithstanding Stewart's description of ACGIH standards, there is little evidence to support her contention that they are strictly health based. Even a cursory examination of the Documentation of the TLVs illustrates this point. Historically, the ACGIH has always included economic, technical, and political matters when developing exposure limits even some of the basic concepts such as short term exposure limits (STELS) were introduced specifically

Review of international standard setting processes
continued

to prevent industry from being placed in "undue jeopardy".[73] [74] Neither current operational guidelines nor concepts preclude non-health matters from being integrated. The TLVs are consensusstandards agreed to between two parties, industry and government. Labour organizations do not take part at any stage during the development of ACGIH standards.

One of the best known and widely respected organizations involved with health standards, albeit in a particular form, is the International Agency for Research on Cancer (IARC) in Lyon, France. IARC is a United Nations sponsored body located within the World Health Organization. Its funding is derived from a variety of bilateral and multilateral sources including contributions from the member states of the U.N. In 1971, IARC initiated a program to evaluate the carcinogenic risk of chemicals to humans. By November 1981, a total of 585 compounds, industrial processes or occupational exposures had been evaluated or re-evaluated.[75] These evaluations are carried out by scientific Working Groups.

Working Groups are chosen by Agency officials through an informal peer group selection process. Each Working Group member is supposed to serve as an individual scientist, not as a representative of a particular organization or government. The Working Groups are provided with a draft monograph of the substance to be reviewed prepared by IARC staff. All participants of the Working Group meet in Lyon where a final document is prepared for publication.[76] There is no labour participation in the IARC process.

Until recently, the IARC has been concerned exclusively with qualitative, or biological risk assessments. That is, based upon certain principles what is the likelihood that a particular substance or process will cause or not cause cancer in humans? IARC's first attempt to include quantitative risk data (for example, exposure levels) resulted in considerable controversy.[77] [78] It seems highly unlikely that economic or even technical criteria will be considered in the near future.

The three organizations just discussed have one feature in common - Labour does not have the right to participate in the standard setting process. To find standard setting bodies with tripartite features similar to the Centre's, one must turn to countries such as Norway or Sweden.

Norway controls exposure to toxic substances through its Worker Protection and Working Environment Act of 1977.[79] The directorate of Labour Inspection Board supervises the Act and publishes 'administrative' lists for airborne contaminants. The Board consists of seven members. Employers and employees have two members each, while the government-appointed chairman and vice-chairman must represent neither. An employee of the Board

Review of international standard setting processes
continued

may also be appointed. Board members are paid expenses and wages by the government. Although the precise criteria and methodology used to set standards need to be examined more closely, it can probably be assumed that technical and economic criteria are included in the administrative limits.

Sweden's standard setting process is carried out under provisions of the Work Environment Act, 1977[80] The Act is administered by a National Board of Occupational Safety and Health. The Board is headed by a 13 member Directorate which meets on a monthly basis and deals mainly with policy and regulatory issues. The Directorate is composed of the Director-General, his deputy, three employer representatives, four labour representatives, two M.P.s, and two representatives of the Board's own personnel.[81]

Exposure limits, or Maximum Allowable Concentrations (MACs) as they are referred to in Sweden, are the result of a two stage process.

In the first stage a 24-member Criteria Group consisting of NBOSH and various external representatives reviews data but does not propose a specific standard or limit. In the second stage, an 18-member Regulations Group consisting of seven NBOSH personnel and 11 others elected by employers and employees recommends a specific MAC. Technological and economic factors are considered before passing the recommendation on to the board's Directorate for approval or change.[82]

In passing, it should be noted that an International comparison between ACGIH and Swedish exposure limits revealed marked differences. Swedish standards allowed less exposure for 67 substances while ACGIH standards allowed less exposure for 2 substances. For 87 substances exposure limits were the same.[83] There are several other European countries with varying degrees of commitment to tripartism.[84] For a variety of political, legal and ideological reasons they do not merit a comprehensive evaluation here.[85]

Finally, it must be stressed that Canadians are not alone in their search for improved methods for setting health standards. Debates are now occurring in the U.S. among ACGIH members themselves about inadequacies within their own system. There are suggestions that standards should be developed by a national body consisting of government, labour, and industry.[86 87]

The Centre is just such a body. It grew out of an understanding by various segments of Canadian society that previous organizational structures, whether in the form of federal-provincial advisory committees, or single federal departments, were totally inadequate to meet the demands of a changing society. Should the

Review of international standard setting processes
continued

Centre decide to pursue this matter further, each of the following should be considered in some detail:

1. An evaluation of the type of standard most suited to the Centre's objectives (TWAs, MACs, etc.).

2. An analysis of the nature of the standard to be developed (biological, biological-technical, biological-technical-economic).

3. An examination of present standard setting processes within the various Canadian jurisdictions and the participants views of them.

4. An examination of selected international standard setting processes with particular emphasis on Norway, Sweden, and the United Kingdom.

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